

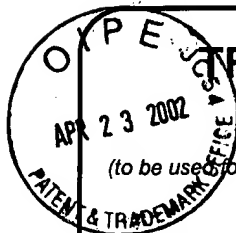
Please type a plus sign (+) inside this box → ☐

PTO/SB/21 (08-00) 1647

Approved for use through 10/31/2002. OMB 0651-0031

U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

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<b>TRANSMITTAL FORM</b> (to be used for all correspondence after initial filing)		<b>Application Number</b>	09/623,304
		<b>Filing Date</b>	February 21, 2001
		<b>First Named Inventor</b>	Silvia, Christopher P.
		<b>Group Art Unit</b>	1647
		<b>Examiner Name</b>	Bridget E. Bunner
<b>Total Number of Pages in This Submission</b>	13	<b>Attorney Docket Number</b>	018512-000410US

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<input type="checkbox"/> Fee Attached	<input type="checkbox"/> Drawing(s)	<input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences
<input type="checkbox"/> Amendment / Response	<input type="checkbox"/> Licensing-related Papers	<input type="checkbox"/> Appeal Communication to Group (Appeal Notice, Brief, Reply Brief)
<input type="checkbox"/> After Final	<input type="checkbox"/> Petition Routing Slip (PTO/SB/69) and Accompanying Petition	<input type="checkbox"/> Proprietary Information
<input type="checkbox"/> Affidavits/declaration(s)	<input type="checkbox"/> Petition to Convert to a Provisional Application	<input type="checkbox"/> Status Letter
<input type="checkbox"/> Extension of Time Request	<input type="checkbox"/> Power of Attorney, Revocation Change of Correspondence Address	<input checked="" type="checkbox"/> Other Enclosure(s) (please identify below):
<input type="checkbox"/> Express Abandonment Request	<input type="checkbox"/> Terminal Disclaimer	Return Postcard; Communication Under 37 CFR 1.821-1.825 and Amendment; Sequence Listing Diskette; printed Sequence Listing pages 1-3; copy of Notice to Comply with copy of Error Report.
<input type="checkbox"/> Information Disclosure Statement	<input type="checkbox"/> Request for Refund	
<input type="checkbox"/> Certified Copy of Priority Document(s)	<input type="checkbox"/> CD, Number of CD(s)	
<input type="checkbox"/> Response to Missing Parts/ Incomplete Application	<b>Remarks</b>	The Commissioner is authorized to charge any additional fees to Deposit Account 20-1430.
<input type="checkbox"/> Response to Missing Parts under 37 CFR 1.52 or 1.53		

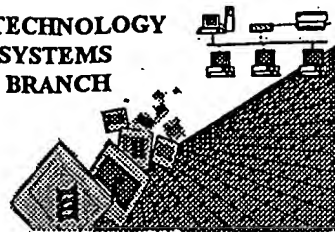
SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT	
<b>Firm and Individual name</b>	Townsend and Townsend and Crew LLP Annette S. Parent Reg. No. 42,058
<b>Signature</b>	
<b>Date</b>	04/18/02

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<b>Date</b>	04/18/02

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SF 1337814 v1

**RAW SEQUENCE LISTING**  
**ERROR REPORT**

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Source: 1647  
Date Processed by STIC: 3/7/02

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FOR SEQUENCE RULES INTERPRETATION, PLEASE CONTACT ROBERT WAX, 703-308-4216.

PATENTIN 2.1 e-mail help: [patin21help@uspto.gov](mailto:patin21help@uspto.gov) or phone 703-306-4119 (R. Wax)

PATENTIN 3.0 e-mail help: [patin3help@uspto.gov](mailto:patin3help@uspto.gov) or phone 703-306-4119 (R. Wax)

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Please consider using alternate methods of submission for the disk/CD-Rom or replacement disk/CD-Rom.

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1647

Does Not Comply  
Corrected Diskette Needed

## RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/623,304

DATE: 03/07/2002

TIME: 10:29:16

Input Set : A:\-4-1.app

Output Set: N:\CRF3\03072002\I623304.raw

3 <110> APPLICANT: Silvia, Christopher  
 4 Yu, Weifeng  
 5 ICAGEN, Inc.  
 7 <120> TITLE OF INVENTION: Identification and Expression of Human Kir5.1  
 9 <130> FILE REFERENCE: 018512-000410US  
 11 <140> CURRENT APPLICATION NUMBER: US 09/623,304  
 12 <141> CURRENT FILING DATE: 2001-02-21  
 14 <150> PRIOR APPLICATION NUMBER: US 60/076,612  
 15 <151> PRIOR FILING DATE: 1998-03-03  
 17 <150> PRIOR APPLICATION NUMBER: WO PCT/US99/04549  
 18 <151> PRIOR FILING DATE: 1999-03-02  
 20 <160> NUMBER OF SEQ ID NOS: 4  
 22 <170> SOFTWARE: PatentIn Ver. 2.1  
 24 <210> SEQ ID NO: 1  
 25 <211> LENGTH: 383  
 26 <212> TYPE: PRT  
 27 <213> ORGANISM: Homo sapiens  
 29 <220> FEATURE:  
 30 <223> OTHER INFORMATION: human Kir5.1 alpha subunit monomer of inward  
 31 rectifier potassium channel  
 33 <220> FEATURE:  
 34 <221> NAME/KEY: PEPTIDE  
 35 <222> LOCATION: (351)..(383)  
 36 <223> OTHER INFORMATION: tail region  
 38 <400> SEQUENCE: 1  
 39 Met Ser Tyr Tyr Gly Ser Ser Tyr His Ile Ile Asn Ala Asp Ala Lys  
 40 1 5 10 15  
 41 Tyr Pro Gly Tyr Pro Pro Glu His Ile Ile Ala Glu Lys Arg Arg Ala  
 42 20 25 30  
 43 Arg Arg Arg Leu Leu His Lys Asp Gly Ser Cys Asn Val Tyr Phe Lys  
 44 35 40 45  
 45 His Ile Phe Gly Glu Trp Gly Ser Tyr Val Val Asp Ile Phe Thr Thr  
 46 50 55 60  
 47 Leu Val Asp Thr Lys Trp Arg His Met Phe Val Ile Phe Ser Leu Ser  
 48 65 70 75 80  
 49 Tyr Ile Leu Ser Trp Leu Ile Phe Gly Ser Val Phe Trp Leu Ile Ala  
 50 85 90 95  
 51 Phe His His Gly Asp Leu Leu Asn Asp Pro Asp Ile Thr Pro Cys Val  
 52 100 105 110  
 53 Asp Asn Val His Ser Phe Thr Gly Ala Phe Leu Phe Ser Leu Glu Thr  
 54 115 120 125  
 55 Gln Thr Thr Ile Gly Tyr Gly Tyr Arg Cys Val Thr Glu Glu Cys Ser  
 56 130 135 140

must give location and explain  
 what residue Xaa represents - see  
 p. 4

## RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/623,304

DATE: 03/07/2002

TIME: 10:29:16

Input Set : A:\-4-1.app

Output Set: N:\CRF3\03072002\I623304.raw

```

57 Val Ala Val Leu Met Val Ile Leu Gln Ser Ile Leu Ser Cys Ile Ile
58 145                               150                               155                               160
59 Asn Thr Phe Ile Ile Gly Ala Ala Leu Ala Lys Met Ala Thr Ala Arg
60                               165                               170                               175
61 Lys Arg Ala Gln Thr Ile Arg Phe Ser Tyr Phe Ala Leu Ile Gly Met
62                               180                               185                               190
63 Arg Asp Gly Lys Leu Cys Leu Met Trp Arg Ile Gly Asp Phe Arg Pro
64                               195                               200                               205
65 Asn His Val Val Glu Gly Thr Val Arg Ala Gln Leu Leu Arg Tyr Thr
66                               210                               215                               220
67 Glu Asp Ser Glu Gly Arg Met Thr Met Ala Phe Lys Asp Leu Lys Leu
68 225                               230                               235                               240
69 Val Asn Asp Gln Ile Ile Leu Val Thr Pro Val Thr Ile Val His Glu
70                               245                               250                               255
71 Ile Asp His Glu Ser Pro Leu Tyr Ala Leu Asp Arg Lys Ala Val Ala
72                               260                               265                               270
73 Lys Asp Asn Phe Glu Ile Leu Val Thr Phe Ile Tyr Thr Gly Asp Ser
74                               275                               280                               285
v--> 75 Thr Gly Thr Ser His Gln Ser Arg Ser Ser Tyr Val Pro Arg Xaa Ile
76                               290                               295                               300
77 Leu Trp Gly His Arg Phe Asn Asp Val Leu Glu Val Lys Arg Lys Tyr
78 305                               310                               315                               320
79 Tyr Lys Val Asn Cys Leu Gln Phe Glu Gly Ser Val Glu Val Tyr Ala
80                               325                               330                               335
81 Pro Phe Cys Ser Ala Lys Gln Leu Asp Trp Lys Asp Gln Gln Leu His
82                               340                               345                               350
83 Ile Glu Lys Ala Pro Pro Val Arg Glu Ser Cys Thr Ser Asp Thr Lys
84                               355                               360                               365
85 Ala Arg Arg Arg Ser Phe Ser Ala Val Ala Ile Val Ser Ser Trp
86                               370                               375                               380

```

89 &lt;210&gt; SEQ ID NO: 2

90 &lt;211&gt; LENGTH: 1509

91 &lt;212&gt; TYPE: DNA

92 &lt;213&gt; ORGANISM: Homo sapiens

94 &lt;220&gt; FEATURE:

95 <223> OTHER INFORMATION: human Kir5.1 alpha subunit monomer of inward  
 96 rectifier potassium channel

98 &lt;220&gt; FEATURE:

99 &lt;221&gt; NAME/KEY: unsure

100 &lt;222&gt; LOCATION: (1279)

101 &lt;223&gt; OTHER INFORMATION: n = a, g, c or t

103 &lt;400&gt; SEQUENCE: 2

```

104 ttactactac aaaactcacc tggatcccta agggcacagc aaagaatgag ctattacggc 60
105 agcagctatc atattatcaa tgcggacgca aaatacccag gctaccgccc agagcacatt 120
106 atagctgaga agagaagagc aagaagacga ttacttcaca aagatggcag ctgtaatgtc 180
107 tacttcaagc acatttttgg agaatgggga agctatgtgg ttgacatctt caccactctt 240
108 gtggacacca agtggcgcca tatgtttgtg atattttctt tatcttatat tctctcgtgg 300
109 ttgatatttg gctctgtctt ttggctcata gcctttcatc atggcgatct attaaatgat 360
110 ccagacatca caccttgtgt tgacaacgtc cattctttca caggggcctt tttgttctcc 420

```

## RAW SEQUENCE LISTING

DATE: 03/07/2002

PATENT APPLICATION: US/09/623,304

TIME: 10:29:16

Input Set : A:\-4-1.app

Output Set: N:\CRF3\03072002\I623304.raw

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111 ctagagaccc aaaccacccat aggatatggt tatogctgtg ttactgaaga atgttctgtg 480
112 gccgtgctca tggatgatcct ccagtcacatc ttaagttgca tcataaatac ctttatcatt 540
113 ggagctgcct tggccaaaat ggcaactgct cgaaagagag cccaaacccat tcgtttcagc 600
114 tactttgcac ttataggtat gagagatggg aagctttgcc tcatgtggcg cattggtgat 660
115 tttcggccaa accacgtggt agaaggaaca gttagagccc aacttctccg ctatacagaa 720
116 gacagtgaag ggaggatgac gatggcattt aaagacctca aattagtcaa cgaccaaadc 780
117 atcctggtca ccccggtaac tattgtccat gaaattgacc atgagagccc tctgtatgcc 840
118 cttgaccgca aagcagtagc caaagataac tttgagattt tggtgacatt tatctatact 900
119 ggtgattcca ctggaacatc tcaccaatct agaagctcct atgttccccg araaattctc 960
120 tggggccata ggtttaatga tgtcttggaa gttaagagga agtattacaa agtgaactgc 1020
121 ttacagtttg aaggaagtgt ggaagtatat gccccctttt gcagtgccaa gcaattggac 1080
122 tggaaagacc agcagctcca catagaaaaa gcaccaccag ttcgagaatc ctgcacgtcg 1140
123 gacaccaagg cgagacgaag gtcatttagt gcagttgcca ttgtcagcag ctggtgaaaa 1200
124 ccctgaggag accaccactt tcgccacaca tgaatatagg gaaacacctt atcagaaagc 1260
W--> 125 tctccctgac tttaaacang aatcctctgt wgaatcccaa atgttagtcc taaaattgca 1320
126 attatgaggg ctaccactga atcattttat ctttcagcca atcaagtcgt tgtaaacgtg 1380
127 gcttttttga aagtgttatg gctatgtttt atgatgatgc tgggtaagta gagtaagtta 1440
128 aacttggtaa aagataatct aaaaattcca tagttctcag ttattaaaat ttttcttgtt 1500
129 ccggaattc 1509
131 <210> SEQ ID NO: 3
132 <211> LENGTH: 24
133 <212> TYPE: DNA
134 <213> ORGANISM: Artificial Sequence
136 <220> FEATURE:
137 <223> OTHER INFORMATION: Description of Artificial Sequence:primer
139 <400> SEQUENCE: 3
140 cctaagggca cagcaaagaa tgag 24
142 <210> SEQ ID NO: 4
143 <211> LENGTH: 20
144 <212> TYPE: DNA
145 <213> ORGANISM: Artificial Sequence
147 <220> FEATURE:
148 <223> OTHER INFORMATION: Description of Artificial Sequence:primer
150 <400> SEQUENCE: 4
151 gtgtggcgaa agtgggtggtc 20

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RAW SEQUENCE LISTING ERROR SUMMARY  
PATENT APPLICATION: US/09/623,304

DATE: 03/07/2002  
TIME: 10:29:18

Input Set : A:\-4-1.app

Output Set: N:\CRF3\03072002\I623304.raw

Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:1; Xaa Pos. 303

Seq#:2; N Pos. 1279

VERIFICATION SUMMARY

PATENT APPLICATION: US/09/623,304

DATE: 03/07/2002

TIME: 10:29:18

Input Set : A:\-4-1.app

Output Set: N:\CRF3\03072002\I623304.raw

M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1 after pos.:288

M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:2 after pos.:1260

APR 25 2002

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<b>Notice to Comply</b>	Applicant(s)	SILVIA ET AL.
	Art Unit	1647
	Examiner	Bridget E. Bunner

Applicant N .

09/623,304

# NOTICE TO COMPLY WITH REQUIREMENTS FOR PATENT APPLICATIONS CONTAINING NUCLEOTIDE SEQUENCE AND/OR AMINO ACID SEQUENCE DISCLOSURES

Applicant must file the items indicated below within the time period set the Office action to which the Notice is attached to avoid abandonment under 35 U.S.C. § 133 (extensions of time may be obtained under the provisions of 37 CFR 1.136(a)).

The nucleotide and/or amino acid sequence disclosure contained in this application does not comply with the requirements for such a disclosure as set forth in 37 C.F.R. 1.821 - 1.825 for the following reason(s):

- ☒ 1. This application clearly fails to comply with the requirements of 37 C.F.R. 1.821-1.825. Applicant's attention is directed to the final rulemaking notice published at 55 FR 18230 (May 1, 1990), and 1114 OG 29 (May 15, 1990). If the effective filing date is on or after July 1, 1998, see the final rulemaking notice published at 63 FR 29620 (June 1, 1998) and 1211 OG 82 (June 23, 1998).
- ☐ 2. This application does not contain, as a separate part of the disclosure on paper copy, a "Sequence Listing" as required by 37 C.F.R. 1.821(c).
- ☐ 3. A copy of the "Sequence Listing" in computer readable form has not been submitted as required by 37 C.F.R. 1.821(e).
- ☒ 4. A copy of the "Sequence Listing" in computer readable form has been submitted. However, the content of the computer readable form does not comply with the requirements of 37 C.F.R. 1.822 and/or 1.823, as indicated on the attached copy of the marked -up "Raw Sequence Listing."
- ☐ 5. The computer readable form that has been filed with this application has been found to be damaged and/or unreadable as indicated on the attached CRF Diskette Problem Report. A Substitute computer readable form must be submitted as required by 37 C.F.R. 1.825(d).
- ☐ 6. The paper copy of the "Sequence Listing" is not the same as the computer readable form of the "Sequence Listing" as required by 37 C.F.R. 1.821(e).
- ☐ 7. Other:

## Applicant Must Provide:

- ☒ An initial or substitute computer readable form (CRF) copy of the "Sequence Listing".
- ☐ An initial or substitute paper copy of the "Sequence Listing", as well as an amendment directing its entry into the specification.
- ☒ A statement that the content of the paper and computer readable copies are the same and, where applicable, include no new matter, as required by 37 C.F.R. 1.821(e) or 1.821(f) or 1.821(g) or 1.825(b) or 1.825(d).

For questions regarding compliance to these requirements, please contact:

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For CRF Submission Help, call (703) 308-4212

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